Installation of SAP Library for SAP systems based on SAP NetWeaver 7.0 and Higher on Windows
# Content

<table>
<thead>
<tr>
<th>1</th>
<th><strong>About this Document</strong></th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td><strong>Variants of SAP Library</strong></td>
<td>7</td>
</tr>
<tr>
<td>2.1</td>
<td>Criteria for Selecting the Help Type</td>
<td>8</td>
</tr>
<tr>
<td>2.2</td>
<td>SAP Help Portal</td>
<td>10</td>
</tr>
<tr>
<td>2.3</td>
<td>PlainHtmlHttp</td>
<td>11</td>
</tr>
<tr>
<td>2.4</td>
<td>PlainHtmlFile</td>
<td>11</td>
</tr>
<tr>
<td>2.5</td>
<td>HtmlHelpFile</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td><strong>Installation</strong></td>
<td>14</td>
</tr>
<tr>
<td>3.1</td>
<td>Installing PlainHtmlHttp and PlainHtmlFile</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Adding PlainHTML Redirects</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Adding Glossary Files To a PlainHTML Installation</td>
<td>17</td>
</tr>
<tr>
<td>3.2</td>
<td>Installing HtmlHelpFile</td>
<td>18</td>
</tr>
<tr>
<td>3.3</td>
<td>Installation of Help Files Using Software Provisioning Manager 1.0</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Preparations for the Installation with Software Provisioning Manager 1.0</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Installing and Updating SAP Library Using Software Provisioning Manager 1.0</td>
<td>24</td>
</tr>
<tr>
<td>4</td>
<td><strong>Post-Installation</strong></td>
<td>29</td>
</tr>
<tr>
<td>4.1</td>
<td>Using a Web Browser or Viewer</td>
<td>29</td>
</tr>
<tr>
<td>4.2</td>
<td>Offline Access to Help Files - SAP Library Navigation</td>
<td>30</td>
</tr>
<tr>
<td>4.3</td>
<td>Setting Variants for SAP Library</td>
<td>31</td>
</tr>
<tr>
<td>4.4</td>
<td>Configuring Documentation Provided on the SAP Help Portal</td>
<td>33</td>
</tr>
<tr>
<td>5</td>
<td><strong>Additional Information</strong></td>
<td>36</td>
</tr>
<tr>
<td>5.1</td>
<td>About the Installer</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Useful Information about the Installer</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Interrupted Processing of the Installer</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>Troubleshooting with the Installer</td>
<td>41</td>
</tr>
<tr>
<td>5.2</td>
<td>Local Override of Help Settings on Front Ends</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>File sapdoccd.ini</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Parameters in File sapdoccd.ini</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>Logging of Help Calls</td>
<td>44</td>
</tr>
</tbody>
</table>
Document History

i Note
Before you start reading, make sure you have the latest version of this installation guide, which is available at https://support.sap.com/sitoolset > System Provisioning > Install a System using Software Provisioning Manager > Installation Option of Software Provisioning Manager 1.0 SP <Current Number>.

The following table provides an overview on the most important document changes:

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.9</td>
<td>2018-09-17</td>
<td>Updated version for Software Provisioning Manager 1.0 SP24 (SL Toolset 1.0 SP24)</td>
</tr>
<tr>
<td>2.8</td>
<td>2018-05-07</td>
<td>Updated version for Software Provisioning Manager 1.0 SP23 (SL Toolset 1.0 SP23)</td>
</tr>
<tr>
<td>2.7</td>
<td>2018-01-15</td>
<td>Updated version for Software Provisioning Manager 1.0 SP22 (SL Toolset 1.0 SP22)</td>
</tr>
<tr>
<td>2.6</td>
<td>2017-09-11</td>
<td>Updated version for Software Provisioning Manager 1.0 SP21 (SL Toolset 1.0 SP21)</td>
</tr>
<tr>
<td>2.5</td>
<td>2017-05-22</td>
<td>Updated version for Software Provisioning Manager 1.0 SP20 (SL Toolset 1.0 SP20)</td>
</tr>
<tr>
<td>2.4</td>
<td>2017-02-06</td>
<td>Updated version for Software Provisioning Manager 1.0 SP19 (SL Toolset 1.0 SP19)</td>
</tr>
<tr>
<td>2.3</td>
<td>2016-10-07</td>
<td>Updated version for Software Provisioning Manager 1.0 SP18 (SL Toolset 1.0 SP18)</td>
</tr>
<tr>
<td>2.2</td>
<td>2016-06-06</td>
<td>Updated version for Software Provisioning Manager 1.0 SP17 (SL Toolset 1.0 SP17)</td>
</tr>
<tr>
<td>2.1</td>
<td>2016-02-15</td>
<td>Updated version for Software Provisioning Manager 1.0 SP10 (SL Toolset 1.0 SP16)</td>
</tr>
<tr>
<td>Version</td>
<td>Date</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2.0</td>
<td>2015-10-12</td>
<td>Updated version for Software Provisioning Manager 1.0 SP09 (SL Toolset 1.0 SP15)</td>
</tr>
<tr>
<td>1.9</td>
<td>2015-09-14</td>
<td>Updated version for Software Provisioning Manager 1.0 SP09 (SL Toolset 1.0 SP14)</td>
</tr>
<tr>
<td>1.8</td>
<td>2015-04-27</td>
<td>Updated version for Software Provisioning Manager 1.0 SP08 (SL Toolset 1.0 SP13)</td>
</tr>
<tr>
<td>1.7</td>
<td>2014-11-24</td>
<td>Updated version for Software Provisioning Manager 1.0 SP07 (SL Toolset 1.0 SP12)</td>
</tr>
<tr>
<td>1.6</td>
<td>2014-07-07</td>
<td>Updated version for Software Provisioning Manager 1.0 SP06 (SL Toolset 1.0 SP11)</td>
</tr>
<tr>
<td>1.51</td>
<td>2014-04-11</td>
<td>Updated version for Software Provisioning Manager 1.0 SP05 (SL Toolset 1.0 SP10)</td>
</tr>
<tr>
<td>1.5</td>
<td>2014-03-17</td>
<td>Updated version for Software Provisioning Manager 1.0 SP05 (SL Toolset 1.0 SP10)</td>
</tr>
<tr>
<td>1.4</td>
<td>2013-07-23</td>
<td>Updated Version</td>
</tr>
<tr>
<td>1.3</td>
<td>2013-07-15</td>
<td>Updated version</td>
</tr>
<tr>
<td>1.2</td>
<td>2012-12-20</td>
<td>Updated version</td>
</tr>
<tr>
<td>1.1</td>
<td>2012-09-28</td>
<td>Updated version</td>
</tr>
<tr>
<td>1.0</td>
<td>2012-08-06</td>
<td>Initial version</td>
</tr>
</tbody>
</table>
1  About this Document

This guide explains how to install or update SAP Library for SAP systems based on SAP NetWeaver using the installation tool software provisioning manager 1.0 SP24 (“installer” for short), which is part of SL Toolset 1.0 SP24.

The SAP NetWeaver-based system products and releases for which this documentation is valid are listed in SAP Note 1680045. Examples of these SAP systems include SAP ERP, SAP Customer Relationship Management, SAP Solution Manager, and SAP Supply Chain Management.

i Note

If you are installing documentation for an SAP S/4HANA system, see the Installation Guide for SAP S/4HANA for information on how to proceed.

SAP Library is an HTML-based solution for documentation. It provides the basis for context-sensitive application help. The SAP Library can be displayed in a Web browser on all front-end platforms supported by SAP. SAP Library is available in several different variants; the installation of each variant is described in this guide:

- Installing PlainHtmlHttp and PlainHtmlFile [page 15]
- Configuring Documentation Provided on the SAP Help Portal [page 33]
- Installing HtmlHelpFile [page 18]

Independent of the installation, you can also override the help settings on the front end to allow users to use a different help type to the default setting. To do this, you work through the following instructions:

Local Override of Help Settings on Front Ends [page 42]

Software Provisioning Manager 1.0

Software provisioning manager is the successor of the product-specific and release-specific delivery of provisioning tools, such as SAPinst. Before you perform an installation or system copy, we recommend that you always download the latest version of the software provisioning manager [page 20] which is part of the Software Logistics Toolset (SL Toolset for short). This way, you automatically get the latest SAPinst version including latest fixes in the tool and supported processes. For more information about software provisioning manager as well as the products and releases that it supports, see SAP Note 1680045.

As a result, SAPinst has been renamed to software provisioning manager (“installer” for short) in this documentation.

However, the term “SAPinst” is still used in:

- Texts and screen elements in the software provisioning manager GUI
- Naming of executables, for example sapinst.exe
Prerequisites

You have obtained the DVD set of SAP Library, either as a physical DVD or CD provided as part of the installation package for your SAP system or by downloading the documentation package from the SAP Software Download Center (SWDC) at https://launchpad.support.sap.com/#/softwarecenter.

We deliver the documentation in the format standard HTML (Plain HTML) and in some cases in the format compiled HTML (HTML help). Subdirectories contain the different language versions that the documentation is available in.

**Note**

For the sake of simplicity in this guide, we refer to the SAP Library DVD/CD or documentation download package from SWDC as the “SAP Library DVD”.

For more information about downloading the documentation package from SWDC, see Downloading Installation Media [page 22]

Implementation Considerations

On Microsoft Windows front ends, you must install at least SAP GUI 7.50 to enable access to the documentation from the SAP system. For more information, see SAP Note 66971.

**Note**

See also the information in the README.TXT file in the downloaded documentation package or on the documentation DVD (see Preparing the Installation Media [page 20]).

If you have any problems installing or displaying SAP Library, go to the SAP Support Portal at https://launchpad.support.sap.com/ and choose the tile Find a Solution. If you cannot find an answer to your question, choose Submit an Incident to create a customer incident.

Use one of the following components to search for SAP Notes or to submit an incident:

- **BC-DOC-IWB-DIS** for any issues relating to customizing of the documentation
- **UA-DOC** for any issues relating to the content of the documentation

SAP Notes for the Installation

You must read SAP Note 1261881 before you start the installation. This SAP Note contains the most recent information on the installation process and corrections to the installation documentation.

Make sure that you have the most up-to-date version of each SAP Note, which you can find on the SAP Support Portal.
Variants of SAP Library

To handle the demands and features presented by different front-end platforms, the HTML-based documentation is provided in several variants (help types). The main differences between the help types are the storage format (Standard HTML or Compiled HTML), the way you access the help documents (Web server or file server), and the search and print functions.

This table allows you to compare the help types and their main features; for more information about each help type, go to the corresponding help type listed in the Related Information section.

<table>
<thead>
<tr>
<th>Help Types</th>
<th>SAP Help Portal</th>
<th>PlainHtmlHttp</th>
<th>PlainHtmlFile</th>
<th>HtmlHelpFile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front-end platforms</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>All Windows platforms supported by Microsoft</td>
</tr>
<tr>
<td>File format</td>
<td>Standard HTML</td>
<td>Standard HTML</td>
<td>Standard HTML</td>
<td>Compiled HTML</td>
</tr>
<tr>
<td>Accessed from</td>
<td>SAP Help Portal</td>
<td>Web server</td>
<td>File server</td>
<td>File server</td>
</tr>
<tr>
<td>Displayed in</td>
<td>Web browser (Microsoft Internet Explorer or Google Chrome)</td>
<td>Web browser (Microsoft Internet Explorer or Google Chrome)</td>
<td>Web browser (Microsoft Internet Explorer)</td>
<td>HTML Help Viewer (installation of Microsoft Internet Explorer required)</td>
</tr>
<tr>
<td>Local full-text search</td>
<td>X (using the This document option in the search bar above the content)</td>
<td>X (using the This document option in the search bar above the content)</td>
<td>X (using the This document option in the search bar above the content)</td>
<td>X (in CHM file)</td>
</tr>
<tr>
<td>Printing of single topics</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
## Supported operating systems for the help installation

<table>
<thead>
<tr>
<th></th>
<th>SAP Help Portal</th>
<th>PlainHtmlHttp</th>
<th>PlainHtmlFile</th>
<th>HtmlHelpFile</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM AIX</td>
<td>Not applicable</td>
<td>●</td>
<td>●</td>
<td>Microsoft Windows</td>
</tr>
<tr>
<td>HP-UX</td>
<td></td>
<td>●</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>Sun Solaris</td>
<td></td>
<td>●</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>Linux</td>
<td></td>
<td>●</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>Microsoft Windows</td>
<td></td>
<td>●</td>
<td>●</td>
<td></td>
</tr>
</tbody>
</table>

## Restrictions

- The documentation you want to consume must be available on the SAP Help Portal.
- The users must have access to the Internet.
- You can specify only one combination of product and version.
- This help type is not compatible with Google Chrome.
- For more information, see SAP Note [2622352](https://support.sap.com/).
- Not all product documentation is provided in this help type, for example SAP ERP has discontinued this help type.

## Related Information

- [Criteria for Selecting the Help Type](page 8)
- [SAP Help Portal](page 10)
- [PlainHtmlHttp](page 11)
- [PlainHtmlFile](page 11)
- [HtmlHelpFile](page 12)

## 2.1 Criteria for Selecting the Help Type

You can choose the preferred help type to use in your SAP system. The following graphic shows you the factors you need to take into account.
If documentation is available on the SAP Help Portal for the product and version that you are using, we recommend that you configure the connection to the SAP Help Portal.

If you decide to use a local installation in your system landscape, bear in mind the following criteria:

- If you want to access the SAP Library with Google Chrome, we recommend that you install the SAP Library on a Web server (help type PlainHtmlHttp). This help type contains a script that is used to enhance the rendering. While embedded in a Web server, there are no issues with Google Chrome; but when the SAP Library is installed on a file system, Google Chrome prevents the execution of these scripts. For more information, see SAP Note 2622352.
- If you want to use the Web Application Server ABAP (Web AS ABAP) of an SAP system as your Web server, see SAP Note 1019805.
- If you use front-end platforms other than Microsoft Windows, we recommend that you install PlainHtmlHttp because this help type provides a full-text search function from the SAP Help Portal.
- If you do not have a Web server and you use front-end platforms other than Microsoft Windows, you must use help type PlainHtmlFile.
- If you use front ends on Microsoft Windows only, you can install the help type HtmlHelpFile, where available. This help type offers more extensive search and print functions than the other two help types. However, not all product documentation is provided in this help type because Microsoft have ceased the support for their Compiled HTML Help (CHM) format. For more information, see SAP Note 2572047.

**Note**

If you are using different front-end platforms in parallel, you have to choose a default help type other than HtmlHelpFile. Nevertheless, you can also provide the help type HtmlHelpFile for users with...
• If you want to access SAP documentation from both SAP GUI for Windows (Win GUI) and SAP GUI for HTML (Web GUI), or from a browser-based SAP application, you cannot use help type `HtmlHelpFile`

### 2.2 SAP Help Portal

You can use the help type `SAP Help Portal` on all front-end platforms. Like the PlainHtml help types, it uses a standard HTML file format, and a standard Web browser for viewing. You must configure the connection to the SAP Help Portal in your SAP system. In this case, you do not need to install the help files in your system landscape.

**Features**

**Characteristics**
- Can be used on all front-end platforms that your product supports. For more information, see the SAP Product Availability Matrix at `https://apps.support.sap.com/sap/support/pam`.
- Documents displayed with a standard Web browser (Microsoft Internet Explorer or Google Chrome)
- Navigation in structures (tables of contents) and using hyperlinks
- Printing of individual help documents

**System Requirements**

<table>
<thead>
<tr>
<th>System Requirements for SAP Help Portal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front end</td>
</tr>
<tr>
<td>No requirements other than those of the Web browser</td>
</tr>
</tbody>
</table>

**Limitations**
- The documentation you want to consume must be available on the SAP Help Portal. If the product version that you are using is not available on the SAP Help Portal, you must install the documentation in your local system landscape using the SAP Library DVD provided.
- The users who consume the documentation must have access to the Internet. If this is not the case, you must install the documentation in your local system landscape using the SAP Library DVD provided.
- You can configure an ABAP system to connect to only one combination of product and version. If you want to consume documentation for more than one product, you must install the documentation in your local system landscape using the SAP Library DVD provided.
Related Information

Configuring Documentation Provided on the SAP Help Portal [page 33]

2.3 PlainHtmlHttp

This help type stores documents in Standard HTML format. They are available from a Web server and can be displayed in a standard Web browser.

Features

Characteristics

- Can be used on all front-end platforms that your product supports. For more information, see the SAP Product Availability Matrix at https://apps.support.sap.com/sap/support/pam.
- Documents displayed with a standard Web browser (Microsoft Internet Explorer or Google Chrome)
- Full-text search in all SAP documents on the SAP Help Portal https://help.sap.com
- Navigation in structures (tables of contents) and using hyperlinks
- Printing of single help documents

System Requirements

System Requirements for PlainHtmlHttp

<table>
<thead>
<tr>
<th>System Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Front end</strong></td>
</tr>
<tr>
<td><strong>Server</strong></td>
</tr>
</tbody>
</table>

Note

For information about supported Web servers for Windows, see the SAP Product Availability Matrix at https://apps.support.sap.com/sap/support/pam.

2.4 PlainHtmlFile

This help type stores documents in Standard HTML format. They are available from a file server and can be displayed in a standard Web browser.
Features

Characteristics
- Can be used on all front-end platforms that your product supports. For more information, see the SAP Product Availability Matrix at https://apps.support.sap.com/sap/support/pam.
- Documents displayed with a standard Web browser (Microsoft Internet Explorer)
- Navigation in structures (tables of contents) and using hyperlinks
- Printing of single help documents

System Requirements

System Requirements for PlainHtmlFile

- **Front end**: No requirements other than those of the Web browser
- **Server**: See Hardware and Software Requirements [page 19]

2.5 HtmlHelpFile

This help type stores documents in Compiled HTML format (* .CHM). They are accessed from a file server and displayed in the HTML Help Viewer. Compiled HTML is a format developed by Microsoft for storing HTML files in compressed form. CHM files require about one-tenth of the disk space required for uncompressed HTML files and about the same space as required for WinHelp files. HTML Help Viewer was introduced by Microsoft as a successor to WinHelp and is based on the Internet Explorer.

⚠️ Caution

Not all product documentation is provided in this help type because Microsoft have ceased the support for their Compiled HTML Help (CHM) format. SAP’s documentation contains an increasing amount of interactive elements that are not rendered appropriately on older versions of Microsoft Internet Explorer.

Features

- Can be used only on Windows front-end platforms
- Documentation can be accessed directly from the SAP Library DVD; no unpacking is required
- Documentation is displayed in HTML Help Viewer (requires Microsoft Internet Explorer)
- Navigation in structures and using hyperlinks
- Full-text search in the documentation in the current help file (local search)
- Multiple documents within the same structure can be printed simultaneously.

System Requirements

Front-End Requirements for HtmlHelpFile
For information about the front-end requirements for this help type and the supported SAP GUI platforms, see SAP Note 66971.

Server Requirements for HtmlHelpFile

See Hardware and Software Requirements [page 19].

i Note

If HtmlHelpFile works correctly only when called locally, but not from a network share, you need to apply specific Microsoft Security Bulletins to all front ends and servers. For more information, see SAP Note 857216.
3 Installation

When you install the SAP Library, you provide the users of your SAP systems with the entire documentation in your local system landscape.

Prerequisites

You have obtained the SAP Library DVD for your SAP product. We deliver the documentation in the file format Standard HTML and in some cases the file format Compiled HTML (HTMLHelpFile). Subdirectories contain the different language versions that the documentation is available in.

Process Flow

If you have more than one SAP Library DVD to install, proceed in the following installation sequence:

- SAP Library of the underlying SAP NetWeaver release including SPS download packages, if available
- SAP Library of the product that you want to install
- SAP Library of the addon product that you want to install

For access from the SAP system, you must work through the following steps:

1. **i Note**

   For the sake of simplicity we refer to software provisioning manager 1.0 as “software provisioning manager” or – if suitable – simply as “installer” in the following.

   You install the help files in one of the following ways:
   - You install the PlainHtmlHttp and PlainHtmlFile using software provisioning manager as described in Installing PlainHtmlHttp and PlainHtmlFile [page 15].
   - You install the HtmlHelpFile either manually or using software provisioning manager as described in Installing HtmlHelpFile [page 18].

2. You maintain setting variants for the documentation in transaction SR13 as described in Setting Variants for SAP Library [page 31].

Result

Once you have completed these steps, you can access SAP Library both from the SAP system and when you have no connection to the system.
3.1 Installing PlainHtmlHttp and PlainHtmlFile

This procedure describes how to install PlainHtmlHttp and PlainHtmlFile. The Standard HTML files for help types PlainHtmlHttp and PlainHtmlFile are stored in a packed format in the folder PLAINHTM on the SAP Library DVD. They cannot be viewed directly but must first be unpacked to the Web server or file server. To install the help files, you must use software provisioning manager as described in Installation of Help Files Using the Software Provisioning Manager [page 19].

⚠️ Caution

A complete installation of SAP NetWeaver and SAP ERP comprises about 750,000 files in about 350,000 directories for one language version. Depending on the file system and the configuration of the hard disk, this requires approximately 2.6 GB of disk space.

Prerequisites

To install SAP Library, you require the SAP Library DVD. To display the documentation, a suitable browser or viewer must be installed on your computer. For more information, see Using a Web Browser or Viewer [page 29].

⚠️ Note

When you call the search function from the banner of the relevant documentation, an Internet connection is opened enabling a full-text search from the SAP Help Portal. To use the full-text search function, you need an Internet connection.

⚠️ Note

If Java scripting is not enabled, the button for the full-text search function appears in the browser banner even though this function is only available with help type PlainHtmlHttp. If you choose the button, an error message appears. To remove the button from the banner when using PlainHtmlFile, enable Java scripting in your browser settings as follows:

For Google Chrome, go to Customize and control Google Chrome > Settings > Then choose Privacy and security > Content settings > JavaScript and toggle the switch to Allowed.

For Microsoft Internet Explorer, go to Tools > Internet options > On the Security tab, choose the Local intranet zone. Choose the level Medium or Low.

Procedure

Install PlainHtmlHttp and PlainHtmlFile using software provisioning manager as described in Installation of Help Files Using Software Provisioning Manager [page 19].
Result

The archives in the folder PLAINHTML are unpacked and the help files are written to the Web server. This takes about 30 minutes, depending on the operating system and the data transfer rate of the DVD drive. The directory tree created on the Web server when you install the English language version has the following structure:

<InstallDir>
- PLAINHTML
+ EN (help files, English version)

i Note

For PlainHtmlHttp, you must create the alias /saphelp. Define this alias to point to your installation directory <InstallDir>. The Web server requires read access for /saphelp.

You have installed SAP Library. Once you have maintained the variants in transaction SR13, you can access the documentation from the SAP system and when you have no connection to the SAP system. You maintain variants to define which help variants are available to the user. For more information, see Setting Variants for SAP Library [page 31]

i Note

See SAP Note 2575073 for instructions on how to proceed if an HTTP 404 error occurs when you open the SAP Library with the following URL:


3.1.1 Adding PlainHTML Redirects

Context

The IDs listed in table IWREFERENC in ABAP systems are outdated due to the conversion of SAP documentation to a newer format. You need to replace them with the partner ID information. This is implemented using a set of redirect files that you add to the local SAP Library installation.

PlainHTML redirects are provided as a ZIP file that you can extract and merge with your local documentation installation for each language. The size of the ZIP file is 200MB. These redirects are available for use with the PlainHTML documentation format only.

⚠️ Caution

We recommend that you back up your local SAP library installation before starting.
Restriction
Do not use the software provisioning manager tool to install these redirects because it will overwrite and thus remove existing content with the same file names.

If you have installed the SAP Library on Windows, proceed as follows:

Procedure

1. Go to the URL https://sap.sharepoint.com/u:s/102920/EVtg_BU2lyRPmFZdHnjQZpUBpxnwGi5jRqiUq_FGDSU0g?e=jOT06A.
2. Download the ZIP file plainhtml_redirects.zip to the SAP Help server.
3. Extract the content of the ZIP file plainhtml_redirects.zip directly to the following folder path in your SAP Library installation: PLAINHTM -> <2-digit language code>
   
   If files already exist in the documentation installation, do not overwrite these with the content of the plainhtml_redirects.zip.
   
   For example, the following message appears: The destination has 265 files with the same names.
   
   In this case, choose the option Skip these files; do not choose the option Replace the files in the destination.
4. Repeat this process for all of your local SAP Library installations in all languages.

3.1.2 Adding Glossary Files To a PlainHTML Installation

Context

After installing the SAP Library for your software locally using the software provisioning manager, the menu path Help -> Glossary or Glossary link in the SAP Library banner do not work. You can add the glossary to your local SAP Library installation.

⚠️ Caution

Make sure that you choose the correct language and file format for the local SAP Library installation that you want to add the glossary to. The glossary is provided in English and German only.
Procedure

1. Enter the URL https://sap.sharepoint.com/u:s/102920/EVJbF1Y_6npPIWeldHKXub0ByBtfL6rJ8rutjxg7yLrlCg?e=zeOJBr in your browser address field and download the ZIP file.
2. Open the Software Provisioning Manager and add the downloaded files to your local SAP Library installation.
3. Repeat this process for all local SAP Library installations that you want to add the glossary to.

3.2 Installing HtmlHelpFile

This procedure describes how you install HtmlHelpFile. The Compiled HTML files for help type HtmlHelpFile can be viewed directly from the documentation medium in Microsoft HTML Help Viewer. For better performance, we recommend that you copy the help files to your local hard disk or to a file server (as described in the procedure below).

You can also use software provisioning manager ("installer" for short) to install the HtmlHelpFile. If you want to do this, do not follow the procedure below but instead proceed as described in Installation of Help Files Using Software Provisioning Manager [page 19].

→ Recommendation

We strongly recommend that you use software provisioning manager to install the HtmlHelpFile.

Prerequisites

- To install SAP Library, you require the documentation medium (see Preparing the Installation Media [page 20]).
- To display the documentation, a suitable browser or viewer must be installed on your computer, as described in Using a Web Browser or Viewer [page 29].

Procedure

1. Create a directory on your file server for the help files.
   This is called the documentation directory. Approximately 2 GB of disk space is needed for the English and German language versions.
2. Insert the appropriate media into the media drive.
3. Copy the directory HTMLHELP\<language key> with all its subdirectories from the DVD to the documentation directory on the server.
4. Share the directory.
Result

You have installed SAP Library. Once you have maintained the setting variants in transaction SR13, you can access the documentation from the SAP system and when you have no connection to the SAP system. When you maintain setting variants, you define which help variants are available to the user. For more information, see Setting Variants for SAP Library [page 31].

3.3 Installation of Help Files Using Software Provisioning Manager 1.0

Related Information

Preparations for the Installation with Software Provisioning Manager 1.0 [page 19]
Installing and Updating SAP Library Using Software Provisioning Manager 1.0 [page 24]

3.3.1 Preparations for the Installation with Software Provisioning Manager 1.0

You have to perform the following steps to prepare the installation or update of the SAP Library with software provisioning manager (“installer” for short).

Procedure

1. Check that your installation host meets the hardware and software requirements [page 19].
2. Make sure that the required installation media [page 20] are available.

3.3.1.1 Hardware and Software Requirements

Make sure that your host meets the hardware and software requirements:

- Minimum RAM:
  - 0.5 GB
Minimum disk space (based on PlainHtmlHttp installation SAP NetWeaver, and SAP ERP):

- Approximately 2.6 GB of disk space are required for one language version (Windows NTFS)
- 5 GB of temporary disk space for each required installation medium that you have to copy to a local hard disk
- 2 GB of temporary disk space for the installation

For supported operating system releases, see the Product Availability Matrix at https://support.sap.com/pam.

Caution

You cannot install SAP Library help files on a Microsoft FAT32 file system because this file system cannot handle the large number of files and directories. If your web server runs on Microsoft Windows, do not install the help documentation on the system partition. Instead, choose another partition.

3.3.1.2 Preparing the Installation Media

This section describes how to prepare the installation media.

Installation media are available as follows:

- The Software Provisioning Manager 1.0 archive containing the installer
  You always have to download the latest version of the Software Provisioning Manager 1.0 archive. For more information, see Downloading and Extracting the Software Provisioning Manager 1.0 Archive [page 21].
- The Documentation Installation Media
  `<SAP_Product>` Support Package Stack `<Number>` HTML-Help for `<OS>` Standard HTML (Plain HTML) Number `<Material_Number>`

Example

SAP NetWeaver 7.5 Support Package Stack 12 HTML-Help for Windows Standard HTML (Plain HTML) Number 50143290

You can obtain it in one of the following ways:

- Use the physical DVD or CD provided as part of the installation package of your SAP system.
- Download the documentation package from the SAP Software Download Center (SWDC) at https://launchpad.support.sap.com/#/softwarecenter.
  For more information, see Downloading Installation Media [page 22].

Related Information

- Downloading and Extracting the Software Provisioning Manager 1.0 Archive [page 21]
- Downloading Installation Media [page 22]
3.3.1.2.1 Downloading and Extracting the Software Provisioning Manager 1.0 Archive

You must always download and extract the Software Provisioning Manager 1.0 archive from the SAP Software Download Center because you must use the latest version.

Procedure

1. Download the latest version of the Software Provisioning Manager 1.0 archive [70]SWPM10SP<Support_Package_Number>_<Version_Number>.SAR:
   ○ Valid for SAP systems based on SAP NetWeaver 7.0 and SAP NetWeaver 7.0 including enhancement package <Number>:
     Download the [70]SWPM10SP<Support_Package_Number>_<Version_Number>.SAR
   ○ Valid for SAP systems based on SAP NetWeaver 7.1 and higher:
     Download the SWPM10SP<Support_Package_Number>_<Version_Number>.SAR

   https://support.sap.com/sitoolset > System Provisioning > Download Software Provisioning Manager

2. Make sure that you use the latest version of the SAPCAR tool when manually extracting the Software Provisioning Manager archive.

   i Note
   An older SAPCAR version might extract archive files in a wrong way and this could prevent the installer from working consistently.

   Proceed as follows to get the latest version of SAPCAR:
   a. Go to https://launchpad.support.sap.com/#/softwarecenter > SUPPORT PACKAGES & PATCHES and search for “sapcar”.
   b. Select the archive file for your operating system and download it to an empty directory.
   c. To check the validity of the downloaded executable, right-click the executable and choose Properties. On the Digital Signatures tab you can find information about the SAP signature with which the executable was signed.
   d. Rename the executable to sapcar.exe.

   For more information about SAPCAR, see SAP Note 212876.

3. Using the latest version of SAPCAR, you can verify the signature of the downloaded [70]SWPM10SP<Support_Package_Number>_<Version_Number>.SAR archive as follows:
   a. Get the latest version of the SAPCRYPTOLIB archive to your installation host as follows:
      1. Go to https://launchpad.support.sap.com/#/softwarecenter > SUPPORT PACKAGES & PATCHES and search for “sapcryptolib”.
      2. Select the archive file for your operating system and download it to the same directory where you have put the SAPCAR executable.
3. Use the following command to extract the SAPCRYPTOLIB archive to the same directory where you have put the SAPCAR executable:

```
sapcar -xvf sapcryptolibp_84.sar -R <target directory>
```

4. Download the Certificate Revocation List from [https://tcs.mysap.com/crl/crlbag.p7s](https://tcs.mysap.com/crl/crlbag.p7s) and move it to the same directory.

b. Verify the signature of the downloaded [70]SWPM10SP<Support_Package_Number>_<Version_Number>.SAR archive by executing the following command:

```
<Path to SAPCAR>\sapcar.exe -tvVf<Path to Download Directory> \[70]SWPM10SP<Support_Package_Number>_<Version_Number>.SAR -crl <file name of revocation list>
```

4. Unpack the Software Provisioning Manager archive to a local directory using the following command:

```
<Path to SAPCAR>\sapcar.exe -xvf <Path to Download Directory> \[70]SWPM10SP<Support_Package_Number>_<Version_Number>.SAR -R <Path to Unpack Directory>
```

- **Note**
  Check SAP Notes 2178665 and 1680045 whether additional information is available.

- **Caution**
  Make sure that you unpack the Software Provisioning Manager archive to a dedicated folder. Do not unpack it to the same folder as other installation media.

### 3.3.1.2.2 Downloading Installation Media

This section describes how you can download media from the SAP Software Download Center.

**Procedure**

1. Download and unpack the latest version of Software Provisioning Manager as described in [Downloading and Extracting the Software Provisioning Manager 1.0 Archive](#) [page 21].
2. You identify the required media as listed in [Preparing the Installation Media](#) [page 20].
3. Identify all download objects that belong to one medium according to one of the following:

- **Note**
  Installation media might be split into several files. In this case, you have to reassemble the required files after the download.
Download path or location:

To download the complete kernel media, go to [System Provisioning > Software Provisioning Manager 1.0 SP <Current Version> > Download Kernel releases delivered for SL Toolset > SL TOOLSET 1.0 (INSTALLATIONS AND UPGRADES) > KERNEL FOR INSTALLATION/SWPM]

To download all media required for your SAP product, you can use one of the following navigation paths:

- [https://launchpad.support.sap.com/#/softwarecenter > INSTALLATIONS & UPGRADES > By Category > SAP NETWEAVER AND COMPLEMENTARY PRODUCTS > <Product> > <Product Release>]

Material number
All download objects that are part of an installation medium have the same material number and an individual sequence number:

<Material_Number>_<Sequence_Number>

Example

51031387_1
51031387_2
...

Title
All objects that are part of an installation medium have the same title, such as <Solution><Media_Name><OS> or <Database>RDBMS<OS> for database media.

4. Download the objects to the download directory.
5. To correctly re-combine the media that are split into small parts, unpack all parts into the same directory.

In the unpacking directory, the system creates a subdirectory with a short text describing the medium and copies the data into it. The data is now all in the correct directory, the same as on the medium that was physically produced. For more information, see SAP Note 1258173.

Caution

Make sure that you unpack each installation media to a separate folder. Do not unpack installation media to the same folder where you unpack the Software Provisioning Manager archive.

Do not unpack installation media to the same folder where you unpack the SAP kernel archives for archive-based installation.
3.3.2 Installing and Updating SAP Library Using Software Provisioning Manager 1.0

This procedure tells you how to install and update SAP Library with software provisioning manager (“installer” for short).

Prerequisites

- The installation host meets the hardware and software requirements for the SAP Library installation as described in Hardware and Software Requirements [page 19].
- The required installation media are available on the installation host as described in Preparing the Installation Media [page 20].

Context

- Install means that you install SAP Library from scratch.
- Update means that you update an existing version of SAP Library.

Procedure

1. Make sure that the installation host meets the prerequisites for running the installer.
   Fore more information, see Prerequisites for Running the Installer [page 24].
2. Run the installation or update.
   Fore more information, see Running the Installer (Software Provisioning Manager) [page 25]

3.3.2.1 Prerequisites for Running the Installer

Make sure you fulfil the following prerequisites before running the installer.

- For the SL Common GUI, make sure that the following web browser requirements are met:
  - You have one of the following supported browsers on the device where you want to run the SL Common GUI:
    - Google Chrome (recommended)
    - Mozilla Firefox
    - Microsoft Edge
    - Microsoft Internet Explorer 11 or higher.
  Always use the latest version of these web browsers.
If you copy the SL Common GUI URL manually in the browser window, make sure that you open a new Web browser window in private browsing mode (Internet Explorer), incognito mode (Chrome) or private browsing mode (Firefox). This is to prevent Web browser plugins and settings from interfering with the SL Common GUI.

⚠️ Caution

The installer uses a self-signed certificate, which is used temporarily only while the installer is running. This certificate is not trusted by the browser unless it is imported manually by the user running the installer. This behavior is intentionally designed in this way because - unlike ordinary public web servers - the installer has different usage patterns. You must configure your browser to trust the self-issued certificate of the installer after carefully performing the “thumbprint” verification described in Running the Installer [page 25]. For more information about adding trusted certificates, see the documentation of your browser.

For more information about the SL Common GUI, see Useful Information about the Installer [page 36].

- You need at least 300 MB of free space in the installation directory for each installation option. In addition, you need 300 MB free space for the installer executables. The installer creates an installation directory sapinst_instdir, where it keeps its log files, and which is located directly in the %ProgramFiles% directory. For more information, see Useful Information About the Installer [page 36].
- Make sure that the following ports are not used by other processes:
  - Port 4237 is used by default as HTTPS port for communication between the installer and the SL Common GUI.
    If this port cannot be used, you can assign a free port number by executing sapinst.exe with the following command line parameter:
    `SAPINST_HTTPS_PORT=<Free Port Number>`
  - Port 4239 is used by default for displaying the feedback evaluation form at the end of the installer processing.
    The filled-out evaluation form is then sent to SAP using HTTPS.
    If this port cannot be used, you can assign a free port number by executing sapinst.exe with the following command line parameter:
    `SAPINST_HTTP_PORT=<Free Port Number>`

### 3.3.2.2 Running the Installer

This section describes how to run the installer.

**Prerequisites**

For more information, see Prerequisites for Running the Installer [page 24].
Context

The installer has a web browser-based GUI named “SL Common GUI of the Software Provisioning Manager” - “SL Common GUI” for short.

This procedure describes an installation where you run the installer and use the SL Common GUI, that is you can control the processing of the installer from a browser running on any device.

For more information about the SL Common GUI, see Useful Information About the Installer [page 36].

Procedure

1. Log on to the installation host as a member of the local Administrators group.
2. Start the installer from the directory to which you unpacked the Software Provisioning Manager archive.
   
   ```
   sapinst.exe SAPINST_STACK_XML=<Absolute_Path_To_Stack_XML_File> (in a command prompt)
   .\sapinst.exe SAPINST_STACK_XML=<Absolute_Path_To_Stack_XML_File> (in PowerShell)
   ```
   
   By default, the SL Common GUI uses the default browser defined for the host where you run the installer. However, you can also specify another supported web browser available on the host where you start the installer. You can do this by starting the sapinst executable with command line option SAPINST_BROWSER=<Path to Browser Executable>, for example SAPINST_BROWSER=firefox.exe.

   **iNote**
   
   1. Open a command prompt or PowerShell window in elevated mode and change to the directory to which you unpacked the Software Provisioning Manager archive.
   2. Start the installer with the following command:
      
      ```
      sapinst.exe SAPINST_USE_HOSTNAME=<Virtual_Host_Name> (in a command prompt)
      .\sapinst.exe SAPINST_USE_HOSTNAME=<Virtual_Host_Name> (in PowerShell)
      ```

3. The installer is starting up.

   The installer now starts and waits for the connection with the SL Common GUI. If you have a supported web browser (see Prerequisites for Running the Installer [page 24]) installed on the host where you run the installer, the SL Common GUI starts automatically by displaying the Welcome screen.

   If the SL Common GUI does not open automatically, you can find the URL you require to access the SL Common GUI at the bottom of the Program Starter window of the installer. You find the icon of the Program Starter window in the taskbar of your Windows host. Open a supported web browser and run the URL from there.

   ```
   Open your browser and paste the following URL address to access the GUI
   https://[<hostname>]:4237/sapinst/docs/index.html
   Logon users: [<users>]
   ```

   ...
**Note**

If the host specified by `<hostname>` cannot be reached due to a special network configuration, proceed as follows:
1. Terminate the installer as described in *Useful Information about the Installer* [page 36].
2. Restart the installer from the command line with the `SAPINST_GUI_HOSTNAME=<hostname>` property.
   You can use a fully-qualified host name.

**Caution**

After opening the browser URL, make sure that the URL in the browser starts with "https:/" to avoid security risks such as SSL stripping.

Before you reach the *Welcome* screen, your browser warns you that the certificate of the `sapinst` process on this computer could not be verified.

Proceed as follows to avoid security risks such as a man-in-the-middle attack:
1. Click on the certificate area on the left hand side in the address bar of your browser, and view the certificate.
2. Open the certificate fingerprint or thumbprint, and compare all hexadecimal numbers to the ones displayed in the console output of the installer.
   Proceed as follows to get the certificate fingerprint or thumbprint from the server certificate printed in the installer console:
   1. Go to the `sapinst_exe.xxxxxx.xxxx` directory in the temporary directory to which the installer has extracted itself:
      `%userprofile%\sapinst\`
   2. In the `sapinst_exe.xxxxxx.xxxx` directory, execute the `sapgenpse` tool with the command line option `get_my_name -p`.
      As a result, you get the server fingerprint or thumbprint from the server certificate.
   3. Accept the warning to inform your browser that it can trust this site, even if the certificate could not be verified.

The SL Common GUI opens in the browser by displaying the *Welcome* screen.

4. On the *Welcome* screen, choose the required option:
   - If you are using the 70SWPM*.SAR:
     Choose your product, then go to | Software Life-Cycle Options | SAP Library Installation and Update | and choose Install/Update SAP Library
   - If you are using the SWPM*.SAR:
     Go to | Generic Options | <Database> | SAP Library Installation and Update | and choose Install/Update SAP Library

5. Choose Next.

**Note**

If there are errors during the self-extraction process of the installer, you can find the log file `dev_selfex.out` in the temporary directory.

6. If the installer prompts you to log off from your system, log off and log on again.
The installer restarts automatically.

7. Follow the instructions on the installer screens and enter the required parameters.

\[ i \text{ Note} \]

To find more information on each parameter during the Define Parameters phase, position the cursor on the required parameter input field, and choose either \[ \text{F1} \] or the \[ \text{HELP} \] tab. Then the available help text is displayed in the \[ \text{HELP} \] tab.

\[ \Delta \text{ Caution} \]

The signature of installation media and installation archives is checked automatically during the Define Parameters phase while processing the Media Browser and - if you perform an archive-based installation - the Software Package Browser screens.

Note that this automatic check is only committed once and not repeated if you modify artifacts such as SAR archives or files on the media after the initial check has been done. This means that - if you modify artefacts later on either during the remaining Define Parameters phase or later on during the Execute Service phase - the signature is not checked again.

For more information, see SAP Note 2393060.

After you have entered all requested input parameters, the installer displays the Parameter Summary screen. This screen shows both the parameters that you entered and those that the installer set by default. If required, you can revise the parameters before starting the installation.

8. To start the installation, choose Next.

The installer starts the installation and displays the progress of the installation. When the installation has finished, the installer shows the message: Execution of \(<\text{Option_Name}>\) has completed.

9. If you copied the installer software to your hard disk, you can delete these files when the installation has successfully completed.

10. For security reasons, we recommend that you delete the .sapinst directory within the home directory of the user with which you ran the installer:

\%userprofile\%\sapinst\%

11. The installer log files contain IP addresses and User IDs such as the ID of your S-User. For security, data protection, and privacy-related reasons we strongly recommend that you delete these log files once you do not need them any longer.

You find the installer log files in the sapinst_instdir directory. For more information, see Useful Information about the Installer [page 36].
4 Post-Installation

The following sections provide information about activities after the installation of the SAP Library has finished successfully.

Related Information

Using a Web Browser or Viewer [page 29]
Offline Access to Help Files - SAP Library Navigation [page 30]
Setting Variants for SAP Library [page 31]
Configuring Documentation Provided on the SAP Help Portal [page 33]

4.1 Using a Web Browser or Viewer

The HTML-based documentation can be displayed in a Web browser on all front-end platforms supported by SAP. However, you must observe certain requirements and restrictions depending on the specific platform. The following table shows which browsers can be used with which front-end platforms.

<table>
<thead>
<tr>
<th>Web Browser for Help Documentation</th>
<th>Microsoft Internet Explorer</th>
<th>Mozilla Firefox</th>
<th>Google Chrome</th>
<th>HTML Help Viewer with Microsoft Internet Explorer 5.01 SP 2 (or higher)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Windows platforms</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Note the following points:

- If you use help types PlainHtmlHttp and PlainHtmlFile, you can use either Microsoft Internet Explorer or Google Chrome. For the help structure implemented with JavaScript and displayed as a compressed tree, JavaScript must be activated in the browser used.

**i Note**

If you want to access the SAP Library with Google Chrome, we recommend that you install the SAP Library on a Web server (help type PlainHtmlHttp). This help type contains a script that is used to enhance the rendering. While embedded in a Web server, there are no issues with Google Chrome; but when the SAP Library is installed on a file system, Google Chrome prevents the execution of these scripts. For more information, see 2622352.
• If you use HTML Help Viewer in Microsoft Windows, a new instance of the viewer or browser is opened each time you access the documentation.
• If you choose help type \texttt{HtmlHelpFile}, you must use HTML Help Viewer, which is based on Microsoft Internet Explorer and requires this to function.

**Installation of Microsoft HTML Help Viewer and Microsoft Internet Explorer**

Microsoft HTML Help Viewer is installed automatically when you install SAP GUI 7.10 from the DVD Presentation on your front-end PC (versions of file \texttt{HH.exe} older than 1.32 are overwritten).

Note that \texttt{HH.exe} (HTML Help Viewer) is also installed with Microsoft Internet Explorer, and therefore any version already installed might be overwritten.

Microsoft Internet Explorer is installed with the operating system. You can download updates from the Microsoft Web site. You can also download Microsoft Internet Explorer for Macintosh from the Microsoft Web site.

\begin{table}[ht]
\centering
\begin{tabular}{|l|}
\hline
\textbf{i Note} \tabularnewline
To use the HTML Help Viewer, you have to activate ActiveX in Microsoft Internet Explorer. In Internet Explorer, choose security level \textit{Medium} or \textit{Low} under the \textit{Local intranet} zone in the menu path \textit{Tools} \textit{Internet Options} \textit{Security}.
\texttt{HH.exe} and SAP Note 594271\mbox{ and SAP Note 857216}. \tabularnewline
To display documentation on how to use HTML Help Viewer, choose \textit{Help} in the \textit{Viewer} toolbar. \tabularnewline
\hline
\end{tabular}
\end{table}

**4.2 Offline Access to Help Files - SAP Library Navigation**

To view the documentation without connecting to the SAP system, you need to proceed as follows:

• Install a suitable browser or viewer on your computer as described in table \textit{Web Browser for Help Documentation} in \textit{Using a Web Browser or Viewer} [page 29].
• Ensure that you have access to the help files. For the standard HTML help files, this requires you to unpack the archives in the folder \texttt{PLAINHTM} from the DVD to your hard drive, a Web server, or a file server. For more information, see \textit{Installing PlainHtmlHttp and PlainHtmlFile} [page 15].

**Procedure**

\texttt{PlainHtmlHttp} and \texttt{PlainHtmFile}: Offline Access to the Help Files

1. Navigate to the directory \texttt{<InstallDir>\PlainHTM\<language\_key>}.  
   This is the directory containing the help files.
2. Open file index.htm.
   This loads the documentation homepage in your Web browser. From here you can navigate to all parts of the documentation.

3. Add the documentation homepage to your browser favorites or bookmarks.

**HtmlHelpFile: Offline Access to Help Files**

1. Navigate to the directory `<InstallDir>\HTMLHELP\<language key>` using Microsoft Windows Explorer.
   This is the directory containing the help files.

2. Double-click file 00000001.chm.
   This opens SAP Library. From here you can navigate to all parts of the documentation.

3. Add the documentation homepage to your browser favorites or bookmarks.

---

### 4.3 Setting Variants for SAP Library

**Use**

In the IMG activity **Settings Variants for Help (SAP Library)** (transaction SR13), you specify which help variants you want to make available to users of the SAP system. For more information about the definition of setting variants, see the SAP NetWeaver Implementation Guide (IMG).

For more information about the HTTP protocol configuration, see [SAP Note 1842462](https://support.sap.com/).

For more information about configuring the help settings and to see examples for each help type, see [SAP Note 2149786](https://support.sap.com/).

**Procedure**

**General guidelines**

- Do not use special characters, such as blanks or ampersands, in variant names or in the path names specified in the setting variants.
- Enter variant names in block capitals.
- Create variants for the areas `IWBHELP` and `XML_DOCU` for each front-end platform and language respectively.
- The maximum length of the path name is 64 characters.

**PlainHtmlHttp**

- Enter the name of the Web server including the port.
- Enter the path in the URL syntax.

**PlainHtmlFile**

Use the syntax of the front-end platform when specifying a path name.
Example

i Note
You have to create entries for both documentation and XML documentation areas for each platform you are using and each language in which you want to provide documentation.

Example for PlainHtmlHttp: Setting Variant for the Help Documentation

<table>
<thead>
<tr>
<th>Variant</th>
<th>HTML_WEB_WN32_IWBHELP_EN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platform</td>
<td>WN32</td>
</tr>
<tr>
<td>Area</td>
<td>IWBHELP</td>
</tr>
<tr>
<td>Server</td>
<td>p12345:1080</td>
</tr>
<tr>
<td>Path</td>
<td>PlainHttp</td>
</tr>
<tr>
<td>Language</td>
<td>EN</td>
</tr>
</tbody>
</table>

Example for PlainHtmlHttp: Setting Variant for the Help Documentation

<table>
<thead>
<tr>
<th>Variant</th>
<th>HTML_WEB_WN32_XML_DOCU_EN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platform</td>
<td>WN32</td>
</tr>
<tr>
<td>Area</td>
<td>XML_DOCU</td>
</tr>
<tr>
<td>Server</td>
<td>p12345:1080</td>
</tr>
<tr>
<td>Path</td>
<td>PlainHttp</td>
</tr>
<tr>
<td>Language</td>
<td>EN</td>
</tr>
</tbody>
</table>

Example for PlainHtmlFile: Setting Variant for the Help Documentation

<table>
<thead>
<tr>
<th>Variant</th>
<th>HTML_FILE_WN32_IWBHELP_EN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platform</td>
<td>WN32</td>
</tr>
<tr>
<td>Area</td>
<td>IWBHELP</td>
</tr>
<tr>
<td>Path</td>
<td>\p12345\PlainFile</td>
</tr>
<tr>
<td>Language</td>
<td>EN</td>
</tr>
<tr>
<td>Default</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Example for PlainHtmlFile: Setting Variant for the Help Documentation

<table>
<thead>
<tr>
<th>Variant</th>
<th>HTML_FILE_WN32_XML_DOCU_EN</th>
</tr>
</thead>
</table>
### 4.4 Configuring Documentation Provided on the SAP Help Portal

You can configure the settings in transaction **SR13** to point to documentation that is provided on the SAP Help Portal.

**Context**

**Prerequisites**
- The documentation you want to consume must be available on the SAP Help Portal. If the product version that you are using is not available on the SAP Help Portal, you must install the documentation in your local system landscape using the download packages or DVDs/CDs provided.
- The users who consume the documentation must have access to the Internet. If this is not the case, you must install the documentation in your local system landscape using the download packages or DVDs/CDs provided.
- You can configure an ABAP system to connect to only one combination of product and version. If you want to consume documentation for more than one product, you must install the documentation in your local system landscape using the download packages or DVDs/CDs provided.

Procedure

2. Select the tab PlainHtmlHttp.
3. Choose New Entries.
   You have to create entries for both documentation and XML documentation areas for each platform you are using and each language in which you want to provide documentation.
4. To create entries for the documentation area, enter the following values:

<table>
<thead>
<tr>
<th>Name</th>
<th>Value to be entered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variant</td>
<td>Enter a name for the variant.</td>
</tr>
<tr>
<td>Platform</td>
<td>Select the platform relevant for your implementation from the list of available platforms, for example, WN32.</td>
</tr>
<tr>
<td>Area</td>
<td>Select Documentation from the list; this will display as IWBHELP in the table.</td>
</tr>
<tr>
<td>Path</td>
<td>&lt;product/version&gt; *</td>
</tr>
<tr>
<td>Language</td>
<td>Select the language you need from the list.</td>
</tr>
</tbody>
</table>

* To find the correct entry for the Path field, see the list of products and versions attached to SAP Note 2652009.

5. To create entries for the XML documentation area, enter the following values:

<table>
<thead>
<tr>
<th>Name</th>
<th>Value to be entered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variant</td>
<td>Enter a name for the variant (any name).</td>
</tr>
<tr>
<td>Platform</td>
<td>Select the platform relevant for your implementation from the list of available platforms, for example, WN32.</td>
</tr>
<tr>
<td>Area</td>
<td>Select XML Documentation from the list; this will display as XML_DOCU in the table.</td>
</tr>
<tr>
<td>Path</td>
<td>&lt;product/version&gt; *</td>
</tr>
<tr>
<td>Language</td>
<td>Select the language you need from the list.</td>
</tr>
</tbody>
</table>
* To find the correct entry for the Path field, see the list of products and versions attached to SAP Note 2652009.

You must use the exact combination of uppercase and lowercase characters specified in the product and version.

6. Repeat steps 4 and 5 for each relevant platform and language.
7. Select one entry as the default language for each platform and area.
8. Save your entries.

Results

You have configured the settings to point to documentation that is provided on the SAP Help Portal.

Related Information

SAP Note 2149786
SAP Note 2652009
5 Additional Information

- About the Installer (Software Provisioning Manager) [page 36]
- Local Override of Help Settings on Front Ends [page 42]

5.1 About the Installer

5.1.1 Useful Information about the Installer

This section contains some useful technical background information about the installer and the installer GUI.

- Software Provisioning Manager (the “installer” for short) has the web browser-based “SL Common GUI of the Software Provisioning Manager” - “SL Common GUI” for short. The SL Common GUI uses the SAP UI Development Toolkit for HTML5 - also known as SAPUI5 - a client-side HTML5 rendering library based on JavaScript. The benefits of this new user interface technology for the user are:
  - Zero footprint, since only a web browser is required on the client
  - New controls and functionality, for example, view logs in web browser.

The SL Common GUI connects the web browser on a client with the sapinst executable - which is part of Software Provisioning Manager - running on the installation host using the standard protocol HTTPS. For the SL Common GUI, the installer provides a pre-generated URL in the Program Starter window. If you have a supported web browser installed on the host where you run the installer, the SL Common GUI starts automatically.

By default, the SL Common GUI uses the default browser defined for the host where you run the installer. However, you can also specify another supported web browser available on the host where you start the installer. You can do this by starting the sapinst executable with command line option

```
SAPINST_BROWSER=<Path to Browser Executable>, for example
SAPINST_BROWSER=firefox.exe.
```

Alternatively you can open a supported web browser on any device and run the URL from there. For more information about supported web browsers see Prerequisites for Running the Installer [page 24].

If you need to run the SL Common GUI in accessibility mode, apply the standard accessibility functions of your web browser.

- As soon as you have started the sapinst.exe executable, the installer creates a .sapinst directory underneath the <Drive>:\Users\<User> directory where it keeps its log files. <User> is the user which you used to start the installer.

  After you have reached the Welcome screen and selected the relevant installer option for the SAP system or instance to be installed, the installer creates a directory sapinst_instdir, where it keeps its log files, and which is located directly in the %ProgramFiles% directory. If the installer is not able to create sapinst_instdir there, it tries to create sapinst_instdir in the directory defined by the TEMP environment variable.

  All log files which have been stored so far in the .sapinst folder are moved to the sapinst_instdir directory as soon as the latter has been created.
Recommendation

We recommend that you keep all installation directories until the system is completely and correctly installed.

- The installer extracts itself to a temporary directory (TEMP, TMP, TMPDIR, or SystemRoot). These executables are deleted after the installer has stopped running. Directories called sapinst_exe.xxxxxx.xxxx sometimes remain in the temporary directory after the installer has finished. You can safely delete them. The temporary directory also contains the log file dev_selfex.out from the self-extraction process of the installer, which might be useful if an error occurs.

Caution

- If the installer cannot find a temporary directory, the installation terminates with the error FCO-00058.

- To see a list of all available installer properties, go to the directory %TEMP\sapinst_exe.xxxxxx.xxxx after you have started the installer, and enter the following command:
  sapinst.exe -p

- If required, stop the installer by choosing the Cancel button.

Note

- If you need to terminate the installer, choose File Exit in the menu of the Program Starter window.

5.1.2 Interrupted Processing of the Installer

Here you find information about how to restart the installer if its processing has been interrupted.

Context

The processing of the installer might be interrupted for one of the following reasons:

- An error occurred during the Define Parameters or Execute phase:
  The installer does not abort the installation in error situations. If an error occurs, the installation pauses and a dialog box appears. The dialog box contains a short description of the choices listed in the table below as well as a path to a log file that contains detailed information about the error.

- You interrupted the processing of the installer by choosing Cancel in the SL Common GUI.

Caution

- If you stop an option in the Execute phase, any system or component installed by this option is incomplete and not ready to be used. Any system or component uninstalled by this option is not completely uninstalled.
The following table describes the options in the dialog box:

<table>
<thead>
<tr>
<th>Option</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Retry</strong></td>
<td>The installer retries the installation from the point of failure without repeating any of the previous steps. This is possible because the installer records the installation progress in the <code>keydb.xml</code> file. We recommend that you view the entries in the log files, try to solve the problem, and then choose <strong>Retry</strong>. If the same or a different error occurs, the installer displays the same dialog box again.</td>
</tr>
<tr>
<td><strong>Stop</strong></td>
<td>The installer stops the installation, closing the dialog box, the installer GUI, and the GUI server. The installer records the installation progress in the <code>keydb.xml</code> file. Therefore, you can continue the installation from the point of failure without repeating any of the previous steps. See the procedure below.</td>
</tr>
<tr>
<td><strong>Continue</strong></td>
<td>The installer continues the installation from the current point.</td>
</tr>
<tr>
<td><strong>View Log</strong></td>
<td>Access installation log files.</td>
</tr>
</tbody>
</table>

The following procedure describes the steps to restart an installation, which you stopped by choosing **Stop**, or to continue an interrupted installation after an error situation.

### Procedure

1. Log on to the installation host as a user with the required permissions as described in Running the Installer [page 25].
2. Make sure that the installation media are still available. For more information, see Preparing the Installation Media [page 20].

   **Recommendation**
   Make the installation media available locally. For example, if you use remote file shares on other Windows hosts, CIFS shares on third-party SMB-servers, or Network File System (NFS), reading from media mounted with NFS might fail.

3. Make sure that the installation media are still available. For more information, see Preparing the Installation Media [page 20].

   **Recommendation**
   Make the installation media available locally. For example, if you use remote file shares on other Windows hosts, CIFS shares on third-party SMB-servers, or Network File System (NFS), reading from media mounted with NFS might fail.
4. Restart the installer by double-clicking `sapinst.exe` from the directory to which you unpacked the Software Provisioning Manager archive.

By default, the SL Common GUI uses the default browser defined for the host where you run the installer. However, you can also specify another supported web browser available on the host where you start the installer. You can do this by starting the `sapinst` executable with command line option `SAPINST_BROWSER=<Path to Browser Executable>`, for example `SAPINST_BROWSER=firefox.exe`.

5. The installer is restarting.

The installer now starts and waits for the connection with the SL Common GUI. If you have a supported web browser (see Prerequisites for Running the Installer [page 24]) installed on the host where you run the installer, the SL Common GUI starts automatically by displaying the Welcome screen.

If the SL Common GUI does not open automatically, you can find the URL you require to access the SL Common GUI at the bottom of the Program Starter window of the installer. You find the icon of the Program Starter window in the taskbar of your Windows host. Open a supported web browser and run the URL from there.

```

Open your browser and paste the following URL address to access the GUI
https://[<hostname>]:4237/sapinst/docs/index.html
Logon users: [<users>]
```

...  

**Note**

If the host specified by `<hostname>` cannot be reached due to a special network configuration, proceed as follows:

1. Terminate the installer as described in Useful Information about the Installer [page 36].
2. Restart the installer from the command line with the `SAPINST_GUI_HOSTNAME=<hostname>` property.
   You can use a fully-qualified host name.

**Caution**

After opening the browser URL, make sure that the URL in the browser starts with “https://” to avoid security risks such as SSL stripping.

Before you reach the Welcome screen, your browser warns you that the certificate of the `sapinst` process on this computer could not be verified.

Proceed as follows to avoid security risks such as a man-in-the-middle attack:

1. Click on the certificate area on the left hand side in the address bar of your browser, and view the certificate.
2. Open the certificate fingerprint or thumbprint, and compare all hexadecimal numbers to the ones displayed in the console output of the installer.
   Proceed as follows to get the certificate fingerprint or thumbprint from the server certificate printed in the installer console:

   1. Go to the `sapinst_exe.xxxxx.xxxxx` directory in the temporary directory to which the installer has extracted itself:
      `%userprofile%\sapinst\`
2. In the `sapinst.exe.xxxxx.xxxx` directory, execute the `sapgenpse` tool with the command line option `get_my_name -p`.
   As a result, you get the server fingerprint or thumbprint from the server certificate.
3. Accept the warning to inform your browser that it can trust this site, even if the certificate could not be verified.

The SL Common GUI opens in the browser by displaying the `Welcome` screen.

6. From the tree structure on the `Welcome` screen, select the installation option that you want to continue and choose `Next`.

The `What do you want to do?` screen appears.

7. On the `What do you want to do?` screen, decide between the following alternatives and continue with `Next`:

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perform a new run</strong></td>
<td>The installer does not continue the interrupted installation option. Instead, it moves the content of the old installer directory and all installer-specific files to a backup directory. Afterwards, you can no longer continue the old option. The following naming convention is used for the backup directory: <code>log_&lt;Day&gt;_&lt;Month&gt;_&lt;Year&gt;_&lt;Hours&gt;_&lt;Minutes&gt;_&lt;Seconds&gt;</code></td>
</tr>
<tr>
<td><strong>Example</strong></td>
<td><code>log_01_Oct_2016_13_47_56</code></td>
</tr>
<tr>
<td><strong>Note</strong></td>
<td>All actions taken by the installation before you stopped it (such as creating directories or users) are not revoked.</td>
</tr>
<tr>
<td><strong>Caution</strong></td>
<td>The installer moves all the files and folders to a new log directory, even if these files and folders are owned by other users. If there are any processes currently running on these files and folders, they might no longer function properly.</td>
</tr>
<tr>
<td><strong>Continue with the existing one</strong></td>
<td>The installer continues the interrupted installation from the point of failure.</td>
</tr>
</tbody>
</table>
5.1.3 Troubleshooting with the Installer

This section tells you how to proceed when errors occur while the installer is running.

Context

If an error occurs, the installer:
- Stops processing
- Displays a dialog informing you about the error

Procedure

1. Check SAP Note 1548438 for known installer issues.
2. If an error occurs during the Define Parameters or the Execute Service phase, do one of the following:
   - Try to solve the problem:
     - To check the installer log files (sapinst.log and sapinst_dev.log) for errors, choose the LOG FILES tab.
     
     \[\text{i Note}\]
     
     The LOG FILES tab is only available if you have selected on the Welcome screen the relevant installer option for the SAP product to be installed.
     
     If you need to access the log files before you have done this selection, you can find the files in the .sapinst directory underneath the \(<\text{Drive}>\):\Users\<User> directory, where <User> is the user which you used to start the installer.
     
     For more information, see Useful Information about the Installer [page 36].
     
     - To check the log and trace files of the installer GUI for errors, go to the directory %userprofile%\.
     
     - Then continue by choosing Retry.
     
     - If required, abort the installer by choosing Cancel in the tool menu and restart the installer. For more information, see Interrupted Processing of the Installer [page 37].
3. If you cannot resolve the problem, report an incident using the appropriate subcomponent of BC-INS*.
   
   For more information about using subcomponents of BC-INS*, see SAP Note 1669327.
5.2 Local Override of Help Settings on Front Ends

You can override the help setting variants configured in the SAP system locally on Microsoft Windows front ends. This feature allows you to use a different help type and/or call help from a location other than defined in the setting variants defined by the system administrator.

**Note**
You can only override the local front ends if you have defined entries for the setting variants in transaction SR13. You must select a help type in transaction SR13.

5.2.1 File sapdoccd.ini

You enter override information in file sapdoccd.ini. You can store this file in the following locations:

- In the Microsoft Windows directory of the front-end PC (`c:\Windows` or `c:\WINNT`)
- In the SAP GUI directory (locally or on a server)
- In the parent directory of the SAP GUI directory

**Order of Evaluation**

Each time the user accesses help in the SAP system (Help > Application Help), the help processor evaluates the sapdoccd.ini file in the Microsoft Windows directory of the front-end PC. If the file is not there, the help processor next searches for it in the SAP GUI directory and then in the parent directory of the SAP GUI directory. If the file cannot be found or if it does not contain any override information for HTML-based help, the help processor copies the values of the setting variant of the SAP system currently in use. For more information, see Setting Variants for SAP Library [page 31]. To override the SAP system setting variant, look for a sapdoccd.ini file in the locations mentioned above and modify its content according to your requirements. Otherwise, create a file with any ASCII editor (for example, Editor). Make sure you observe the sequence of evaluation if the file exists in more than one place.

**Content and Format of sapdoccd.ini**

The sapdoccd.ini file contains entries in Microsoft Windows INI format. The names of sections and parameters are not case-sensitive, but parameter values are.

**Note**
Apart from the settings for HTML-based help in systems with Release 4.0A and later, the sapdoccd.ini file can also contain control information for the WinHelp-based help in systems with Releases 3.xx. These settings do not affect one another.
5.2.2 Parameters in File sapdoccd.ini

The following parameters and parameter values can be used:

<table>
<thead>
<tr>
<th>HelpType</th>
<th>PlainHtmlHttp, PlainHtmlFile, HtmlHelpFile, DynamicHelp, GetFromR3</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;HelpType&gt;Server</td>
<td>Name of the Web server on which the files for &lt;HelpType&gt; reside</td>
</tr>
<tr>
<td>&lt;HelpType&gt;Path-&lt;language&gt;</td>
<td>Path to the help files for logon language &lt;language&gt; &lt;language&gt; is a two character language key.</td>
</tr>
<tr>
<td>&lt;HelpType&gt;Path</td>
<td>Path to the help files you want to display if no parameter &lt;HelpType&gt;Path-&lt;language&gt; is specified for the current logon language</td>
</tr>
</tbody>
</table>

**Note**

The help type DynamicHelp can only be used if SAP Knowledge Warehouse is installed. The help type GetFromR3 is not a proper help type. It is used to copy the values of the currently active setting variant of the SAP system. If you specify GetFromR3 as the help type (HelpType=GetFromR3), the settings from the SAP system are used. If you also specify the server and/or path in sapdoccd.ini, these settings override the settings in the SAP system. The paths used to override help settings locally must include the language key.

**Validity Range of Parameters**

You can specify the SAP systems to which the override applies by entering parameter values in the relevant sections in sapdoccd.ini. Entries for overriding the HTML-based help can apply to the following:

- **All SAP systems**
  Entries in section [HTMLHELP] apply to all SAP systems.

- **SAP systems with a specific release**
  Entries in sections [HTMLHELP-<Release>] apply to all SAP systems with this release. They override the entries in section [HTMLHELP].

- **Individual SAP systems**
  Entries in sections [SystemId-<SAP System>] apply to <SAP system> and override both the global entries in section [HTMLHELP] and the release-specific entries in sections HTMLHELP-<Release>.

- **If an entry for a particular release (for example, Release 7.50) specifies a language-specific path (<HelpType>Path<Language>), while an entry for a particular system with the same release specifies a generic path (<HelpType>Path), the release-specific entry applies.**

**Example**

```
[HTMLHELP] HelpType=PlainHtmlHttp
PlainHtmlHttpServer=p99999.sap-ag.de:1080
```
In the example, help type HtmlHelpFile is used and the help files are accessed from the directory \\p12345\HTMLHELP\EN on the file server \p12345. If you launched the help documentation from the SAP system B40, the help type PlainHtmlFile is used. In all other SAP systems, the default help type PlainHtmlHttp (defined in transaction SR13) is used.

**Related Information**

[SAP Note 94849](#)

### 5.2.3 Logging of Help Calls

A log for each call is written to the file `sapdoccd.log`.

The log file contains the following information, separated by spaces:

- Command line used to launch the start program for help (SHH.EXE) from the SAP system
- Default parameters (transaction SR13) extracted from the command line
- Parameters extracted from the file `sapdoccd.ini`
- Start parameters resulting from the previous two points
- Browser/viewer version (for help type HtmlHelpFile only)
The following is an example of a log produced when application help is launched from an SAP system called B20:

Example

Program path = C:\Program Files (x86)\SAP\FrontEnd\SAPgui\HTMLHELP\SHH.EXE
SHH version = 7.5.0.8
Command line = "TYPE=5&SERVER=&PATH=\wdfn32387914A\Help\50140683\HTMLHELP\DE&SYSTEM=B20&_CLASS=IWB_EXTHLP&_LOIO=d18019f9454211d18971000e8322d00&_SLOIO=d1802cfc454211d189710000e8322d00&LANGUAGE=DE&RELEASE=760&IWB_COUNTRY=&IWB_INDUSTRY=&_SCLASS=IWB_STRUCT"

Info: --- Default settings from command line ---
Info: HelpType=HtmlHelpFile
Info: HtmlHelpFilePath=\wdfn32387914A\Help\50140683\HTMLHELP\DE

Info: --- Contents of profile "C:\WINDOWS\sapdoccd.ini" ---
Info: Default value "HtmlHelpFile" for "HelpType" assumed
Info: Default value "\wdfn32387914A\Help\50140683\HTMLHELP\DE" for "HtmlHelpFilePath" assumed

Info: --- Starting HtmlHelp ---
Info: INI file="\wdfn32387914A\Help\50140683\HTMLHELP\DE\htmlhelp.ini"
Info: CHM file="\wdfn32387914A\Help\50140683\HTMLHELP\DE\00000971.chm"
Info: HTM file="/d18019f9454211d189710000e8322d00/content.htm"

Info: --- Version info ---
Info: Microsoft Windows unknown (MajorVersion 6 MinorVersion 2) version 6.2
(Build 9200)
Info: Microsoft Internet Explorer version is 11.0.14393.2007
Info: Microsoft HTML Help version is 6.2.14393.2248

Log Example

Related Information

SAP Note 1466434
SAP Note 95309
Important Disclaimers and Legal Information

Hyperlinks
Some links are classified by an icon and/or a mouseover text. These links provide additional information.
About the icons:

- Links with the icon 🌐: You are entering a Web site that is not hosted by SAP. By using such links, you agree (unless expressly stated otherwise in your agreements with SAP) to this:
  - The content of the linked-to site is not SAP documentation. You may not infer any product claims against SAP based on this information.
  - SAP does not agree or disagree with the content on the linked-to site, nor does SAP warrant the availability and correctness. SAP shall not be liable for any damages caused by the use of such content unless damages have been caused by SAP’s gross negligence or willful misconduct.

- Links with the icon ⏺: You are leaving the documentation for that particular SAP product or service and are entering a SAP-hosted Web site. By using such links, you agree that (unless expressly stated otherwise in your agreements with SAP) you may not infer any product claims against SAP based on this information.

Beta and Other Experimental Features
Experimental features are not part of the officially delivered scope that SAP guarantees for future releases. This means that experimental features may be changed by SAP at any time for any reason without notice. Experimental features are not for productive use. You may not demonstrate, test, examine, evaluate or otherwise use the experimental features in a live operating environment or with data that has not been sufficiently backed up.
The purpose of experimental features is to get feedback early on, allowing customers and partners to influence the future product accordingly. By providing your feedback (e.g. in the SAP Community), you accept that intellectual property rights of the contributions or derivative works shall remain the exclusive property of SAP.

Example Code
Any software coding and/or code snippets are examples. They are not for productive use. The example code is only intended to better explain and visualize the syntax and phrasing rules. SAP does not warrant the correctness and completeness of the example code. SAP shall not be liable for errors or damages caused by the use of example code unless damages have been caused by SAP’s gross negligence or willful misconduct.

Gender-Related Language
We try not to use gender-specific word forms and formulations. As appropriate for context and readability, SAP may use masculine word forms to refer to all genders.

46